

## SECTION 16170

### CIRCUIT AND MOTOR DISCONNECTS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Extent of circuit and motor disconnect switch work is indicated on drawings and schedules.
- B. Types of circuit and motor disconnect switches in this section include the following:
  - 1. Equipment disconnects.
  - 2. Appliance disconnects.
  - 3. Motor-circuit disconnects.
- C. Wires/cables, raceways and electrical boxes and fittings required in connection with circuit and motor disconnect work are specified in other Division 16 Sections.

#### PART 2 - PRODUCTS

##### 2.1 ACCEPTABLE MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide circuit and motor disconnects of one (1) of the following:
  - 1. General Electric Co.
  - 2. Siemens.
  - 3. Square D Company.
  - 4. Cutler-Hammer.

##### 2.2 DISCONNECT SWITCHES

- A. General-Duty Disconnect Switches: For switches rated less than 100-amperes provide surface-mounted, general-duty type, sheet-steel enclosed switches, of types, sizes and electrical characteristics indicated; rated for system voltage, 60 Hz, with required number of poles and solid neutral incorporating spring assisted, quick-make, quick-break switches. Equip with operating handle which is integral part of enclosure base and whose operating position is easily recognizable and is capable of being padlocked in OFF position. Construct current carrying parts of high-conductivity copper, with silver-tungsten type switch contacts and positive pressure type reinforced fuse clips where fusing is required. The enclosure shall be NEMA rated to suit the atmospheric conditions of the equipment surroundings and of the manufacturer's standard finish. When used as service disconnect, provide with UL markings indicating "suitable for use as service equipment".
- B. Heavy-Duty Disconnect Switches: For switches rated 100-amperes or greater provide surface-mounted, heavy-duty type, sheet-steel enclosed switches, of types, sizes and electrical characteristics indicated; rated for system voltage 60 Hz, with required number of poles and solid neutral incorporating quick-make, quick-break type switches. Equip with operating handle which is integral part of enclosure base and whose position is easily recognizable, and is padlockable in OFF position; construct current carrying parts of high-conductivity copper, with silver-tungsten type switch contacts, and positive pressure type reinforced fuse clips where fusing is required. The enclosure shall be NEMA rated to suit the atmospheric conditions of the equipment

surroundings and of the manufacturer's standard finish. When used as service disconnect, provide with UL markings indicating "suitable for use as service equipment".

- C. Motor-circuit disconnect switches must be HP rated.
- D. Fuses: Provide fuses for disconnect switches, as recommended by switch manufacturer, of classes, types and ratings needed to fulfill electrical requirements for service indicated.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION OF MOTOR AND CIRCUIT DISCONNECT SWITCHES

- A. Install circuit and motor disconnect switches where indicated, complying with manufacturer's written instructions, applicable requirements of NEC, NEMA and NECA's "Standard of Installation" and in accordance with recognized industry practices.
- B. Coordinate motor and circuit disconnect switch installation work with electrical raceway work, location of equipment and as necessary for proper interface. Provide U-channel supports from floor and/or structure where required to mount disconnects at free-standing equipment.
- C. Install disconnect switches used with motor-driven appliances, and motors and controllers within sight of controller position for motors greater than 1/8 HP.

#### 3.2 GROUNDING

- A. Provide equipment grounding connections, sufficiently tight to assure a permanent and effective ground as required by NEC and in Grounding Section of Division 16.

#### 3.3 FIELD QUALITY CONTROL

- A. Subsequent to completion of installation of electrical disconnect switches, energize circuitry and demonstrate capability and compliance with requirements. Where possible, correct malfunctioning units at Project Site, then retest to demonstrate compliance; otherwise remove and replace with new units and retest.

END OF SECTION